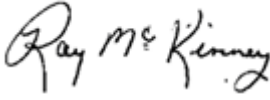


ISSUE DATE: August 2, 2004

PROGRAM INFORMATION BULLETIN NO. P04-19

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SUBJECT: Revision D of the Joy TX-3 Lightweight Radio Remote Station

**Who needs this information?**

Mine Safety and Health Administration (MSHA) enforcement personnel, coal and metal and nonmetal mine operators, miners' representatives, and repair shops need this information.

**Why is MSHA issuing this bulletin?**

MSHA is issuing this bulletin to inform the mining industry of the updates to the Joy TX-3 Lightweight radio remote control unit. The TX-3 has undergone several changes from its original design of open toggle switch pockets. The original design tended to allow an accumulation of dirt and debris which interfered with the operation of the switch. Field testing has shown that the boots introduced in Revision D are the most effective method in reducing the accumulation of dust and debris in the switch pockets of the remote station.

**What is the background for this bulletin?**

The Joy TX-3 remote control was originally distributed with open switch pockets that allowed debris to accumulate during operation. Joy recommended that the unit be periodically flushed out with water. However, the accumulation of debris had the potential to prevent the proper movement of the switch levers or cause a lever to stick. Mine operators and miners reported occurrences of sluggish or sticking switches resulting in erratic machine performance.

Joy initially addressed the problem by applying a gasket under the faceplate, which partially covered the open switch pockets. However, the gasket stretched and tore with use. After field trials revealed that the gasket failed to solve the problem, a toggle switch "boot" was designed to cover switch pockets of the radio remote control unit.

Two problems existed with the original boots introduced to cover the switch pockets. The first problem was the wear life of the boots. Some mine operators reported that the boots cracked in less than one week's use. MSHA inspectors then wrote citations for cracked boots, stating that the equipment was not being maintained in a safe operating condition, because cracked boots could permit debris to accumulate in the switch pocket, and impede switch movement. The second problem encountered was that the boots increased the amount of force required to activate the switches because engaging a switch caused the boot material to pinch itself.

On February 25, 2003, MSHA issued Program Information Bulletin (PIB) P03-3, Recommended Design Safeguards for Permissible Remote Controlled Continuous Mining Machines. This bulletin recommended to the industry several design changes, one of which was the use of "rubber boots" or other means to prevent the entry or build of coal, dust, or other materials in the open switch pockets.

In the summer of 2003, Joy redesigned the switch boot and introduced the change in Revision D of the TX-3 radio remote control unit. Although made of the same material, the new boot is larger than those it replaced. The holes for the boots in the faceplate are larger, requiring some labels and wording to be moved on the faceplate. The design of the new boot incorporates a raised shoulder, reducing the activation resistance of the switches, which allows movement of the switch without pinching and eventually cracking the boot. The new boots have a metal ring incorporated in the base to keep them in place.

Over the past year, mine operators' experience with these changes have proven to prevent the accumulation of debris in these switch wells. Also, with the use of revision D boots, the MSHA inspectors have seen a significant reduction in citations for cracked boots on, or failure to properly maintain, these switch wells.

#### **What units are affected?**

Lightweight radio remote control units with no revision, or with Revisions A, B, or C, do not have the recommended boot upgrade. Please refer to Joy Service Bulletin OFGJ-243, which is attached to this PIB, for more information.

#### **What steps should be taken?**

Any lightweight radio remote control unit with no revision, or with Revisions A, B, or C, should be returned to the manufacturer for upgrade to Revision D, which is the version supported by Joy. A second option is for operators to purchase a kit from Joy,

which can upgrade the lightweight radio remote control unit to include the improved switch boots. Please refer to Joy Service Bulletin OFGJ-244, which is attached to this PIB, for more information.

Revision D lightweight radio remote control units in service should be inspected regularly for cracked or torn boots. Damaged boots should be replaced to prevent debris from accumulating in the switch pockets.

Also, MSHA recommends, after the upgrade, that mine operators provide training for personnel addressing the safe operation and maintenance of the remote controllers. Machine operators should be trained to inspect the remotes for cracked or damaged boots and to inspect the switch wells for an accumulation of debris when switch movement becomes irregular.

**Whom can I contact at Joy?**

For further information, contact your nearest Joy service location found on the website [www.joy.com](http://www.joy.com).

**Who are the MSHA contact persons for this bulletin?**

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**Is this information bulletin available on the internet?**

This Program Information Bulletin may be viewed on the World Wide Web by accessing MSHA's home page (<http://www.msha.gov>). Click on "Rules & Regs", "Compliance Assistance Information" and "Program Information Bulletins."

**What is the authority for this bulletin?**

The authority for this bulletin is Title 30 Code of Federal Regulations §§ 18.20(b), 57.12002 , and 75.520.

**Who will receive this bulletin?**

MSHA Enforcement Personnel

Program Policy Manual Holders

Miners' Representatives

Underground Mine Operators

Repair Shop Facilities



**JOY MINING MACHINERY**  
A Joy Global Inc. Company

# JOY SERVICE BULLETIN

Number **0FGJ-0243**  
Issued **15 JANUARY 2004**  
Revised  
Product **MINER GENERAL**  
Type **ALL WITH "LIGHTWEIGHT"**  
**RADIO REMOTE**  
Approval **JCG/JJS/SAM/TAS/LJL**

## REVISION "D" LIGHTWEIGHT RADIO REMOTE STATIONS

An upgrade to "D" specifications of the LightWeight Radio Remote Station is now available. As noted in previous bulletins, the revision level is determined by looking at the last character of the station's serial number. If it is a number only or a number and the letter A, B, or C then the station should be returned for updating. If the last character of the serial number is the letter "D", then your station is already upgraded to include the improvements described below and does not need to be returned.

The revision "D" upgrade provides a number of significant improvements:

- 1) The rubber switch boots have been redesigned to provide significantly longer usable life. The new boots are far more flexible resulting in a greatly reduced activation force; the change will significantly improve the ergonomics of the lightweight station.
- 2) The extended TRAM knobs decrease the required activation force by approximately 50% and, when used in combination with the new boots, make the station much easier to use.
- 3) The station LED lenses (light pipes) will be sealed with a better adhesive to reduce the possibility of moisture and dust contamination into the unit.
- 4) A new faceplate has been designed because the new boots are significantly larger than previous versions. The holes for the boots and switches are enlarged and the text has been moved to accommodate these new boots.

END



**JOY MINING MACHINERY**  
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# JOY SERVICE BULLETIN

Number **0FGJ-0244**  
Issued **15 JANUARY 2004**  
Revised  
Product **MINER GENERAL**  
Type **ALL WITH "LIGHT-WEIGHT"**  
**RADIO REMOTE**  
Approval **JCG/JJS/SAM/TAS/LJL**

## **LIGHTWEIGHT RADIO REMOTE STATION UPGRADE KIT**

A kit is now available to upgrade the LightWeight Remote Station's switch boots to the new improved longer lasting, flexible version. This upgrade can be easily performed in the field.

Joy P/N 100157289 Upgrade Kit for LightWeight Remote Station P/N 100112672 includes:

- Joy P/N 100157286 Knob
- Joy P/N 100157287 Boot
- Joy P/N 100157288 Faceplate

Joy P/N 100157624 Upgrade Kit for LightWeight Remote Station P/N 100069220 includes:

- Joy P/N 100157286 Knob
- Joy P/N 100157287 Boot
- Joy P/N 100157623 Faceplate

The upgrade kit must be initially installed on the station. Once installed, new switch boots can be purchased for ongoing maintenance by ordering the Joy part number for boots listed above.

**Note:** If your unit has the "D" upgrade, indicated by the letter "D" following the serial number, you already have the latest design of boots and you will not need the kits listed above.

Units without the "D" upgrade will be automatically updated when they are returned for repair.

END